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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM (to be used for all correspondence during pendency of filed application)	Application Number	09/851,593	
	Filing Date	May 8, 2001	
	First Named Inventor	Tian Shen	
	Group Art Unit Number	2633	
	Examiner Name	Not yet known	
Total Number of Pages in This Submission	8*	Attorney Docket Number	20852-05135

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ENCLOSURES (check all that apply)

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Signature:	<i>Eileen A. Lehmann</i>		
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PATENT #4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Tian Shen, Robert B. Clarke, Thomas J. Roman, David B. Upham,
David A. Pechner, Laurence J. Newell, Jr.

APPLICATION NO.: 09/851,593

FILING DATE: May 8, 2001

TITLE: Variable Rate High-Speed Input And Output In Optical
Communication Networks

EXAMINER: Not yet known

GROUP ART UNIT: 2633

ATTY. DKT. NO.: 20852-05135

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WASHINGTON, DC. 20231

INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO-1449 listing references for consideration by the Examiner. A copy is enclosed herewith of each listed reference which may be material to the examination of this application, and with respect to which there may be a duty to disclose.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

- ☒ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior applications Serial No. 09/405,367, filed on September 24, 1999 and Serial No. 09/571,349, filed on May 16, 2000, and the references cited therein are hereby

referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).

The Information Disclosure Statement submitted herewith is being filed:

- ☒ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first official action on the merits, whichever event last occurred; OR
 - ☐ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;
 - ☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either:
 - (1) a final action under 37 CFR § 1.113; OR
 - (2) a notice of allowance under 37 CFR § 1.311; AND
 - ☐ attached hereto is the fee of \$180, as set forth under 37 CFR § 1.17(p), for submission of this Information Disclosure Statement under 37 CFR § 1.97(c); OR
 - ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
 - ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
 - ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this certification after making reasonable inquiry, was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement.
- OR
- ☐ before the payment of the issue fee but after the mailing date of the first to occur of either:
 - [1] a final action under 37 CFR § 1.113; OR
 - [2] a notice of allowance under 37 CFR § 1.311; AND
 in accordance with the requirements of 37 CFR § 1.97(d):

- ☐ Applicant certifies pursuant to 37 CFR. § 1.97(e) that:
- ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this certification after making reasonable inquiry, was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND
- ☐ Applicant hereby respectfully petitions for the consideration of the accompanying Information Disclosure Statement under 37 CFR § 1.97(d)(2); AND
- ☐ Applicant submits the petition fee of \$180 as set forth in 37 CFR § 1.17(p).

☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

☒ Applicant submits that no fee is required for the consideration of the accompanying Information Disclosure Statement.

Consideration of the listed references and favorable action are solicited.

Respectfully submitted,
Tian Shen, Robert B. Clarke, Thomas J. Roman,
David B. Upham, David A. Pechner, Laurence J.
Newell, Jr.

Dated: August 30, 2001

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FORM PTO-1449 (REV. 6-89) INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office		Attorney's Docket No. 20852-05135	Serial No. 09/851,593
	Applicant Tian Shen et al.			
	Filing Date May 8, 2001		Group Art Unit 2633	

U.S. PATENT DOCUMENTS

Examination		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A	6,078,412	06/20/00	Fuse et al.	359	124	10/03/96
	B	5,878,088	03/02/99	Knutson et al.	375	324	04/10/97
	C	5,680,238	10/21/97	Masuda	359	132	11/09/95
	D	5,596,436	01/21/97	Sargis et al.	359	132	07/14/95
	E	5,576,874	11/19/96	Czerwec et al.	359	123	
	F	5,559,561	09/24/96	Wei	348	470	07/15/94
	G	5,461,612	10/24/95	Göckler et al.	370	55	10/24/94
	H	5,430,568	06/04/95	Little et al.	359	124	
	I	5,387,927	02/07/95	Look et al.	348	6	09/17/93
	J	5,351,148	9/27/94	Maeda et al.	359	124	05/26/93
	K	4,953,156	8/28/90	Olshansky et al.	370	3	09/08/88
	L	4,701,904	10/20/87	Darcie	370	3	
	M	4,061,577	12/06/77	Bell	250	199	8/18/76

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		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	N	EP 0 717 521 A	06/19/96	EP				No
	O	EP 0 756 393 A1	01/29/97	EP				No

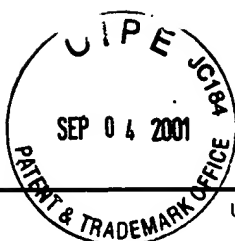
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

P	Alcatel, "Alcatel 1680 SM 10 Gbps (STM-64) Add Drop Multiplexer", copyright 1997 (printed from http://www.alcatel.com/telecom/mbd/products/products/1680sm.htm on May 24, 1999), pp. 1-4
Q	Alcatel, "Alcatel 1692 SM 10 Gbps (OC-192) SONET Transport System", copyright 1997 (printed from http://www.alcatel.com/telecom/mbd/products/products/1692.htm on May 24, 1999), pp. 1-2
R	Alcatel, "The OPTINEX Family of Network Elements", copyright 1997 (printed from http://www.alcatel.com/telecom/tsd/products/family.htm on May 24, 1999), pp. 1-7
S	Business Wire, "Harmonic Lightwaves Announces Availability of First MCNS-Compliant QAM Modulator; TRANsend QAM is a Vital Component for Delivering Digital Services", November 18, 1997

EXAMINER _____ DATE CONSIDERED _____

EXAMINER: Initial if references considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered.

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Sheet 2 of 4

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Patent and Trademark Office

Attorney's Docket No.

20852-05135

Serial No.

09/851,593

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Applicant

Tian Shen et al.

Filing Date

May 8, 2001

Group Art Unit

2633

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation
					Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

T	Cambrian Systems Corporation, "OPTera Metro Optical Networking Platform Product Information," copyright 1997 (printed from http://www.cambriansys.com/productinfo.htm on May 24, 1999), pp. 1-4
U	Dai, H., C. Lin, M. Ramachandran, "Hybrid AM/QAM Video Trunking Lightwave Systems With Cascaded EDFAs", Conf. Proc. LEOS, 97 Annual Meeting, IEEE Lasers & Electro Optic Society, 1997, Vol. 1, pp. 319-320
V	Douverne, E., M. Ottka, K. Ruthemann, K. Siegel, "Ein 64-QAM-Modem für SDH-Richtfunkgeräte mit integriertem Kreuzpolarisationsentkoppler", Vol. 40, No. 11, 1 March 1994, pages 89-100
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X	Fuse, M., Y. Kudo, K. Maeda, "Development of 128 Optical Distribution System of 150 chs AM/QAM Hybrid Signals", <i>Electronics and Communications in Japan</i> , November 1996, Volume 79, Issue 11, Part 1, pp. 65-77
Y	Green, P., "Fiber Optic Networks", 1993, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, p. 331, line 4 - line 7, figure 9-1
Z	HILL, Paul M., et al., "Multigigabit Subcarrier Multiplexed Coherent Lightwave System," <i>Journal of Lightwave Technology</i> , Vol. 10, No. 11, November 1992, pages 1656-1664.
AA	Hiramatsu, A. et al., "Hypermedia Photonic Information Network Based on WDM-SCM Broadcast and Select Switching," Conference Proceedings, Leos '96 9 th Annual Meeting, IEEE Lasers and Electro-Optics Society 1996 Annual Meeting (Cat. No. 96CH35895), Boston, MA, November 18-19, 1996, pp. 312-313
BB	Hitachi Telecom (USA) Inc., "OC-192 AMN5192 Sonet Node," July 1998, pp. 1-2
CC	Ho, K., H. Dai, C. Lin, "Hybrid WDM Digital Trunking System for both HFC and FTTC Access Networks", Digest IEEE/LEOS 1996 Summer Topical Meetings (Cat. No. 96 th 8164), NY, NY, pp. 37-38
DD	I-Cube, "Designing a Large Crosspoint With Fast Reconfiguration", Literature #D-22-013, September 1997, pp. 1-9
EE	I-Cube, "Optimal I/O Assignment in an IQX-based Crossbar Switch", Literature #D-21-019, September 1997, pp.1-14

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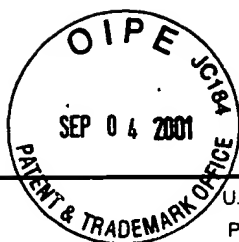
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Patent and Trademark OfficeAttorney's Docket No.
20852-05135Serial No.
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Applicant

Tian Shen et al.

Filing Date
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation
					Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

FF	I-Cube, "IQX Family Data Sheet", January 1999, pp. 1-58
GG	Jones-Bey, H., "Optical switches pursue crossconnect markets," <i>Laser Focus World</i> , May 1998, pp. 153-162.
HH	Kanno, N., K. Ito, "Fiber Optic Subcarrier Multiplexing Transport for Broadband Subscriber Distribution Network", <i>IEEE Intl. Conference on Communications Boston ICC/89 World Prosperity Through Communications</i> , June 11-14, 1989, Boston, MA, Volume 2, pp. 996-1003
II	Kavehrad, M., E. Savov, "Fiber-Optic Transmission of Microwave 64-QAM Signals", <i>IEEE Journal on Selected Areas in Communications</i> , Vol. 8, No. 7, September 1990, pp. 1320-1326
JJ	Ken-ichi Kitayama, "Subarrier Multiplexing Based Signaling and Access Control in Optical FDM Networks", <i>IEEE Global Telecommunications Conference (GLOBECOM'95, Singapore)</i> , Nov. 1995, pp. 1996-2002
KK	Kitayama, Ken-ichi, "Subarrier Multiplexing Based Signaling and Access Control in Optical FDM Networks", <i>IEEE Global Telecommunications Conference (GLOBECOM'95, Singapore)</i> , Nov. 1995, pp. 1996-2002
LL	LeBer, J., M. LeLigne, "Digital Transmission on Electric Subcarriers in Optical Fiber Videocommunication Systems", <i>Optics Communications</i> , October 15, 1987, Volume 64, No. 2, pp. 120-126
MM	Li, J., K. Yano, "Development of AM/QAM Hybrid Optical SCM Transmission System", <i>Proc Intl Conf. On Communication Technology ICCT '96</i> , May 5-7, 1996, Beijing, China, Volume 1, pp. 575-577
NN	Lu, X., G.E. Bodeep, T.E. Darcie, "Broad-Band AM-VSB/64 QAM Cable TV System Over Hybrid Fiber/Coax Network," <i>IEEE Photonics Technology Letters</i> , Vol. 7, No. 4, April 1995, pp. 330-332
OO	Nakamura, Y., H. Ohtsuka, S. Aikawa, H. Takanashi, "Advanced Techniques for Super Multi-Carrier Digital Microwave Radio With Trellis-Coded 256 QAM Modulation", <i>NTT Radio Communication Systems Laboratories</i> , pp. 389-394
PP	Nishikido, J. et al., "Multiwavelength Securely-Authenticated Broadcast Network" <i>11th International Conference on Integrated Optics and Optical Fibre Communications</i> , 23 rd European Conference on Optical Communications IOOC-ECOC 97 (Conf. Publ. No. 448), Sept. 22, 1997, pp. 17-20
QQ	Nortel, "S/DMS Transport Node OC-192 System," Issue 1, September 25, 1995, pp. 1-25
✓ RR	Nosu, K, Toba, K Inoue, Oda, K. "100 channel optical FDM technologies and its application to optical FDM channel-based network", <i>IEEE J. Lightwave Technology</i> , 11, May 1993, pp. 764-776

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	Applicant Tian Shen et al.		
	Filing Date May 8, 2001	Group Art Unit 2633	

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FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	SS	Ohtsuka, H., O. Kagami, S. Aikawa, H. Takanashi, "256-QAM Subcarrier Transmission for Broadband Distribution Networks", NTT Radio Communications Systems Laboratories, GlobeCom '91, pp. 1817-1822
	TT	Park, J., A. Elrefaie, K. Lau, "1550-nm Transmission of Digitally Modulated 28-GHz Subcarriers Over 77 km of Nondispersion Shifted Fiber", <u>IEEE Photonics Technology Letters</u> , February 1997, Volume 9, Issue 2, pp. 256-258
	UU	Sargis, Paul D. et al., "10-Gb/s Subcarrier Multiplexed Transmission Over 490 km of Ordinary Single-Mode Fiber Without Dispersion Compensation," <u>IEEE Photonics Technology Letters</u> , December 1997, Volume 9, No. 12
	VV	Ryan, J., "WDM: North American Deployment Trends," <i>IEEE Communications Magazine</i> , February 1998, pp. 40-44.
	WW	Schlump, Dieter et al.: "Electronic equalization of PMD and chromatic dispersion induced distortion after 100 km standard fibre at 10 Gbit/s" PROCEEDINGS OF THE EUROPEAN CONFERENCE ON OPTICAL COMMUNICATION, 20 September 1998, pp. 535-536.
	XX	Swaminathan, V., N. Froberg, L. Upadhyayula, "The end-to-end bit error performance of 64-quadrature amplitude modulated signals in a hybrid AM-vestigial sideband/QAM fiber-optic video transmission system", <u>Proceedings of SPIE-International Society for Optical Engineering</u> , Volume 2917, pp. 274-282
	YY	Tai, C., Pi-Yang Chiang, W. Way, "Eight-Way, 70-km Transmission of 33-Channel 64-QAM Signals Utilizing a 1.3- μ m External Modulation System and Semiconductor Optical Amplifier", <u>IEEE Photonics Technology Letters</u> , Vol. 8, No. 9, September 1996, pp. 1244-1248
	ZZ	Tang, D., "Multi-Gigabit Fiber-Optic Video Distribution Network Using BPSK Microwave Subcarriers", <u>IEEE 1989 MTT-S Intl. Microwave Symp Digest</u> , June 13-15, 1989, Long Beach, CA, Volume 2, pp. 697-701
	AAA	Wilson, G, "Capacity of QAM SCM systems utilising optically linearised Mach-Zehnder modulator as transmitter", <u>Electronic Letters</u> , Vol. 34, No. 25, December 10, 1998, pp. 2372-2374

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